

CLAIMS :

1/. A method for retrieving client boot information in a network environment with multiple boot servers, comprising:

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        if the client configuration information is not found
on the first boot server, sending a list request for a
boot server list to the first boot server;

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sending a configuration information request for the client configuration information to each server in the boot server list until the client configuration information is found or a request has been sent to every server in the boot server list.

2. The method of claim 1, wherein at least one of the initial request, the list request, and the configuration information request is a trivial file transfer protocol request.

receiving, from the first boot server, an error message that indicates that the client information is not found on the first boot server.

receiving the client configuration information from
an associated boot server in response to the client

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configuration information being found.

5. The method of claim 4, further comprising:

5 sending a boot file request for remaining boot files
to the associated boot server based on the client
configuration information.

6. The method of claim 1, further comprising:

10 determining whether the entries in the boot server
list were pre-ordered, in order to better support load
balancing among boot servers, prior to transmission to
the client; and

15 if the list is found to be ordered, sending a
configuration information request for the client
configuration information to each server in the boot
server list in the order given.

7. The method of claim 1, further comprising:

20 sending a configuration information request for the
client configuration information to each server in the
boot server list in order of increasing network distance,
where distance is estimated from available network
configuration information when there was no indication
that the order of the original boot server list was
25 optimized in order to better support load balancing.

8. The method of claim 1, wherein the method is
performed by a network bootstrap program.

30 9. The method of claim 1, wherein the method is
performed on a client computer.

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10. A method for providing client boot information in a network environment with multiple boot servers, comprising:

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        if the client configuration information is not
found, sending an error message that indicates that the
client information is not found;

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sending the boot server list to the client.

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12. The method of claim 10, further comprising:

13. The method of claim 10, wherein the method is performed on a boot server.

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30      first sending means for sending an initial request
      for client configuration information to a first boot

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server;
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5 server;
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third sending means for sending a configuration information request for the client configuration information to each server in the boot server list until the client configuration information is found or a request has been sent to every server in the boot server list.

20 16. The apparatus of claim 14, further comprising:
means for receiving, from the first boot server, an
error message that indicates that the client information
is not found on the first boot server.

25 17. The apparatus of claim 14, further comprising:
means for receiving the client configuration
information from an associated boot server in response to
the client configuration information being found; and
means for sending a boot file request for remaining
30 boot files to the associated boot server based on the
client configuration information.

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18. The apparatus of claim 14, further comprising:
means for determining whether the entries in the
boot server list were pre-ordered, in order to better
5 support load balancing among boot servers, prior to
transmission to the client; and
if the list is found to be ordered, means for
sending a configuration information request for the
client configuration information to each server in the
10 boot server list in the order given.
19. The apparatus of claim 14, further comprising:
means for sending a configuration information request for
the client configuration information to each server in
15 the boot server list in order of increasing network
distance, where distance is estimated from available
network configuration information when there was no
indication that the order of the original boot server
list was optimized in order to better support load
20 balancing.
20. The apparatus of claim 14, wherein the apparatus is
client computer running a network bootstrap program.
- 25 ~~21.~~ An apparatus for providing client boot information
in a network environment with multiple boot servers,
comprising:
first receipt means for receiving an initial request
for client configuration information from a client;
30 first sending means for sending an error message
that indicates that the client information is not found

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if the client configuration information is not found;
second receipt means for receiving a list request
for a boot server list from the client; and
second sending means for sending the boot server
5 list to the client.

22. The apparatus of claim 21, wherein at least one of
the initial request and the list request is a trivial
file transfer protocol request.

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23. The apparatus of claim 21, further comprising:
means for adding an indication to the boot server
list to inform the client that the list is given in
optimal order to support load balancing among boot
15 servers.

24. The apparatus of claim 21, wherein the apparatus is
a boot server.

20 25. A computer program product, in a computer readable
medium, for retrieving client boot information in a
network environment with multiple boot servers,
comprising:

instructions for sending an initial request for
25 client configuration information to a first boot server;
instructions for sending a list request for a boot
server list to the first boot server if the client
configuration information is not found on the first boot
server;

30 instructions for receiving the boot server list; and
instructions for sending a configuration information

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request for the client configuration information to each server in the boot server list until the client configuration information is found or a request has been sent to every server in the boot server list.

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~~26~~. A computer program product, in a computer readable medium, for providing client boot information in a network environment with multiple boot servers, comprising:

- 10 instructions for receiving an initial request for client configuration information from a client;
instructions for sending an error message that indicates that the client information is not found if the client configuration information is not found;
- 15 instructions for receiving a list request for a boot server list from the client; and
instructions for sending the boot server list to the client.

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